

1.

Wrongology

It infuriates me to be wrong when I know I'm right.

—MOLIÈRE

Why is it so fun to be right? As pleasures go, it is, after all, a second-order one at best. Unlike many of life's other delights—chocolate, surfing, kissing—it does not enjoy any mainline access to our biochemistry: to our appetites, our adrenal glands, our limbic systems, our swoony hearts. And yet, the thrill of being right is undeniable, universal, and (perhaps most oddly) almost entirely indiscriminating. We can't enjoy kissing just anyone, but we can relish being right about almost anything. The stakes don't seem to matter much; it's more important to bet on the right foreign policy than the right racehorse, but we are perfectly capable of gloating over either one. Nor does subject matter; we can be equally pleased about correctly identifying an orange-crowned warbler or the sexual orientation of our coworker. Stranger still, we can enjoy being right even about dis-

agreeable things: the downturn in the stock market, say, or the demise of a friend's relationship, or the fact that, at our spouse's insistence, we just spent fifteen minutes schlepping our suitcase in exactly the opposite direction from our hotel.

Like most pleasurable experiences, rightness is not ours to enjoy all the time. Sometimes we are the one who loses the bet (or the hotel). And sometimes, too, we are plagued by doubt about the correct answer or course of action—an anxiety that, itself, reflects the urgency of our desire to be right. Still, on the whole, our indiscriminate enjoyment of being right is matched by an almost equally indiscriminate feeling that we *are* right. Occasionally, this feeling spills into the foreground, as when we argue or evangelize, make predictions or place bets. Most often, though, it is just psychological backdrop. A whole lot of us go through life assuming that we are basically right, basically all the time, about basically everything: about our political and intellectual convictions, our religious and moral beliefs, our assessment of other people, our memories, our grasp of facts. As absurd as it sounds when we stop to think about it, our steady state seems to be one of unconsciously assuming that we are very close to omniscient.

To be fair, this serene faith in our own rightness is often warranted. Most of us navigate day-to-day life fairly well, after all, which suggests that we are routinely right about a great many things. And sometimes we are not just routinely right but spectacularly right: right about the existence of atoms (postulated by ancient thinkers thousands of years before the emergence of modern chemistry); right about the healing properties of aspirin (recognized since at least 3000 BC); right to track down that woman who smiled at you in the café (now your wife of twenty years). Taken together, these moments of rightness represent both the high-water marks of human endeavor and the source of countless small joys. They affirm our sense of being smart, competent, trustworthy, and in tune with our environment. More important, they keep us alive. Individually and collectively, our very existence depends on our ability to reach accurate conclusions about the world around us. In short, the experience of being right is imperative for our survival, gratifying for our ego, and, overall, one of life's cheapest and keenest satisfactions.

This book is about the opposite of all that. It is about being wrong: about how we as a culture think about error, and how we as individuals cope when our convictions collapse out from under us. If we relish being right and regard it as our natural state, you can imagine how we feel about being wrong. For one thing, we tend to view it as rare and bizarre—an inexplicable aberration in the normal order of things. For another, it leaves us feeling idiotic and ashamed. Like the term paper returned to us covered in red ink, being wrong makes us cringe and slouch down in our seat; it makes our heart sink and our dander rise. At best we regard it as a nuisance, at worst a nightmare, but in either case—and quite unlike the gleeful little rush of being right—we experience our errors as deflating and embarrassing.

And that's just for starters. In our collective imagination, error is associated not just with shame and stupidity but also with ignorance, indolence, psychopathology, and moral degeneracy. This set of associations was nicely summed up by the Italian cognitive scientist Massimo Piattelli-Palmarini, who noted that we err because of (among other things) "inattention, distraction, lack of interest, poor preparation, genuine stupidity, timidity, braggadocio, emotional imbalance, . . . ideological, racial, social or chauvinistic prejudices, as well as aggressive or prevaricatory instincts." In this rather despairing view—and it is the common one—our errors are evidence of our gravest social, intellectual, and moral failings.

Of all the things we are wrong about, this idea of error might well top the list. It is our meta-mistake: we are wrong about what it means to be wrong. Far from being a sign of intellectual inferiority, the capacity to err is crucial to human cognition. Far from being a moral flaw, it is inextricable from some of our most humane and honorable qualities: empathy, optimism, imagination, conviction, and courage. And far from being a mark of indifference or intolerance, wrongness is a vital part of how we learn and change. Thanks to error, we can revise our understanding of ourselves and amend our ideas about the world.

Given this centrality to our intellectual and emotional development, error shouldn't be an embarrassment, and cannot be an aberration. On the contrary. As Benjamin Franklin observed in the quote that heads this book, wrongness is a window into normal human nature—into our imaginative

minds, our boundless faculties, our extravagant souls. This book is staked on the soundness of that observation: that however disorienting, difficult, or humbling our mistakes might be, it is ultimately wrongness, not rightness, that can teach us who we are.

This idea is not new. Paradoxically, we live in a culture that simultaneously despises error and insists that it is central to our lives. We acknowledge that centrality in the very way we talk about ourselves—which is why, when we make mistakes, we shrug and say that we are human. As bats are batty and slugs are sluggish, our own species is synonymous with screwing up. This built-in propensity to err is also recognized within virtually every religious, philosophical, and scientific account of personhood. Nor are errors, in these accounts, just surface features or passing oddities, like hiccups or fingernails or *déjà vu*. Twelve hundred years before René Descartes penned his famous “I think, therefore I am,” the philosopher and theologian (and eventual saint) Augustine wrote “*fallor ergo sum*”: I err, therefore I am. In this formulation, the capacity to get things wrong is not only part of being alive, but in some sense proof of it. For Augustine as for Franklin, being wrong is not just what we do. In some deep sense, it is who we are.

And yet, if fallibility is built into our very name and nature, it is in much the same way the puppet is built into the jack-in-the-box: in theory wholly predictable, in practice always a jarring surprise. In this respect, fallibility is something like mortality, another trait that is implicit in the word “human.” As with dying, we recognize erring as something that happens to everyone, without feeling that it is either plausible or desirable that it will happen to us. Accordingly, when mistakes happen anyway, we typically respond as if they hadn’t, or as if they shouldn’t have: we deny them, wax defensive about them, ignore them, downplay them, or blame them on somebody else.

Our reluctance to admit that we are wrong is not just an individual failing. With the exception of those error-prevention initiatives employed in high-risk fields like aviation and medicine, our culture has developed remarkably few tools for addressing our propensity to err. If you commit

a moral transgression, you can turn to at least a handful of established options to help you cope with it. Virtually every religious tradition includes a ritual for penitence and purification, along the lines of confession in Catholicism and Yom Kippur in Judaism. Twelve-step programs advise their participants to admit “to God, to ourselves, and to another human being the exact nature of our wrongs.” Even the criminal justice system, although far from reform-minded these days, has one foot rooted in a tradition of repentance and transformation. By contrast, if you commit an error—whether a minor one, such as realizing halfway through an argument that you are mistaken, or a major one, such as realizing halfway through a lifetime that you were wrong about your faith, your politics, yourself, your loved one, or your life’s work—you will not find any obvious, ready-to-hand resources to help you deal with it.

How could you? As a culture, we haven’t even mastered the basic skill of saying “I was wrong.” This is a startling deficiency, given the simplicity of the phrase, the ubiquity of error, and the tremendous public service that acknowledging it can provide. Instead, what we have mastered are two alternatives to admitting our mistakes that serve to highlight exactly how bad we are at doing so. The first involves a small but strategic addendum: “I was wrong, *but* . . .”—a blank we then fill in with wonderfully imaginative explanations for why we weren’t so wrong after all. (More on this in Part Three.) The second (infamously deployed by, among others, Richard Nixon regarding Watergate and Ronald Reagan regarding the Iran-Contra affair) is even more telling: we say, “mistakes were made.” As that evergreen locution so concisely demonstrates, all we really know how to do with our errors is *not* acknowledge them as our own.*

* Western culture has another mechanism for admitting mistakes, but its extreme obscurity only underscores the point that such devices are woefully rare. In poetry, there is an entire form, the palinode, dedicated to retracting the sentiments of an earlier poem. (In Greek, *palin* means “again,” and *ode* means “song,” making a palinode linguistically identical to a recantation: to “re-can” means to sing again. We invoke this same idea when we say that someone who has shifted positions on an issue is “singing a different tune.”) The most famous palinode—which isn’t saying much—was written by the seventh-century poet Stesichorus, and serves to retract his earlier claim that Helen

By contrast, we positively excel at acknowledging other people's errors. In fact, if it is sweet to be right, then—let's not deny it—it is downright savory to point out that someone else is wrong. As any food scientist can tell you, this combination of savory and sweet is the most addictive of flavors. We can never really get enough of reveling in other people's mistakes. Witness, for instance, the difficulty with which even the well-mannered among us stifle the urge to say "I told you so." The brilliance of this phrase (or its odiousness, depending on whether you get to say it or must endure hearing it) derives from its admirably compact way of making the point that not only was I right, I was also right about being right. In the instant of uttering it, I become right squared, maybe even right factorial, logarithmically right—at any rate, really, extremely right, and really, extremely delighted about it. It is possible to refrain from this sort of gloating (and consistently choosing to do so might be the final milestone of maturity), but the feeling itself, that triumphant *ha!*, can seldom be fully banished.

Of course, parading our own brilliance and exulting in other people's errors is not very nice. For that matter, even *wanting* to parade our own brilliance and exult in other people's errors is not very nice, although it is certainly very human. This is where our relationship to wrongness begins to show its stakes. Of all the strife in the world—strife of every imaginable variety, from conflict over crumb cake to conflict in the Middle East—a staggering amount of it arises from the clash of mutually incompatible, entirely unshakable feelings of rightness. Granted, we find plenty of other reasons to fight with one another as well, ranging from serious and painful breaches in trust to resource scarcity to the fact that we haven't had our coffee yet. Still, an impressive number of disputes amount to a tug-of-war over who possesses the truth: we fight over the right to be right. Likewise, it is surprisingly difficult to get angry unless you are either convinced that you are correct, or humiliated and defensive about being wrong.

of Troy was solely responsible for the carnage of the Trojan War. My personal favorite example, however, comes from Ogden Nash. Having famously observed that "Candy / Is dandy / But liquor / Is quicker," and apparently living to regret it, Nash followed up with this: "Nothing makes me sicker / Than liquor / And candy / Is too expandy."

Our default attitude toward wrongness, then—our distaste for error and our appetite for being right—tends to be rough on relationships. This applies equally to relationships among nations, communities, colleagues, friends, and (as will not be lost on most readers) relatives. Indeed, an old adage of therapists is that you can either be right or be in a relationship: you can remain attached to Team You winning every confrontation, or you can remain attached to your friends and family, but good luck trying to do both.

If insisting on our rightness tends to compromise our relationships, it also reflects poorly on our grasp of probability. I've already suggested that error isn't rare, yet it often seems remarkably scarce in our own lives—enough so that we should take a moment to establish exactly how un-rare it really is. By way of example, consider the domain of science. The history of that field is littered with discarded theories, some of which are among humanity's most dramatic mistakes: the flat earth, the geocentric universe, the existence of ether, the cosmological constant, cold fusion. Science proceeds by perceiving and correcting these errors, but over time, the corrections themselves often prove wrong as well. As a consequence, some philosophers of science have reached a conclusion that is known, in clumsy but funny fashion, as the Pessimistic Meta-Induction from the History of Science. The gist is this: because even the most seemingly bulletproof scientific theories of times past eventually proved wrong, we must assume that today's theories will someday prove wrong as well. And what goes for science goes in general—for politics, economics, technology, law, religion, medicine, child-rearing, education. No matter the domain of life, one generation's verities so often become the next generation's falsehoods that we might as well have a Pessimistic Meta-Induction from the History of Everything.

What is true of our collective human pursuits is also true of our individual lives. All of us outgrow some of our beliefs. All of us hatch theories in one moment only to find that we must abandon them in the next. Our tricky senses, our limited intellects, our fickle memories, the veil of emotions, the tug of allegiances, the complexity of the world around us: all of this conspires to ensure that we get things wrong again and again. You might never have given a thought to what I'm calling wrongology, you

might be the farthest thing in the world from a wrongologist; but, like it or not, you are already a wrongitioner. We all are.

A book about being wrong can't get very far without first making its way across a definitional quagmire: *Wrong? About what? Says what?* We can be wrong about the integrity of our money manager; the identity of the murder suspect; or the name of the shortstop for the '62 Mets; about the structure of a hydrogen molecule or the date of the Second Coming; about the location of our car keys or the location of weapons of mass destruction. And that's just the straight-forward stuff. There are also all those things about which we can never be proved wrong, but about which we tend to believe that people who disagree with us *are* wrong: the author of the Bible, the ethics of abortion, the merits of anchovies, whether it was you or your girlfriend who left the laptop in front of the window before the storm.

As arbitrary as this list is, it raises some important questions about any project that proposes to treat error as a coherent category of human experience. The first question concerns the stakes of our mistakes. The difference between being wrong about your car keys and being wrong about weapons of mass destruction is the difference between "oops" and a global military crisis—consequences so dramatically dissimilar that we might reasonably wonder if the errors that led to them can have anything in common. The second question is whether we can be wrong, in any meaningful sense, about personal beliefs. It's a long way from the Mets to the moral status of abortion, and some readers will suspect that the conceptual distance between being wrong about facts and being "wrong" about convictions is unbridgeable. Other readers, meanwhile, will raise a different objection: that we can never be completely sure of the truth, and therefore can legitimately describe *anything* as "right" or "wrong."

In short, trying to forge a unified theory out of our ideas about error is akin to herding cats. Nor is the opposite approach, divvying up wrongness into categories, much easier. Still both tactics have been attempted. The former is a pet project of Western philosophy, which has been attempting to define the essential nature of error from the get-go. For at least

the first two thousand years of its existence, philosophy understood itself as the pursuit of knowledge and truth—a job description that obliged its practitioners to be almost equally obsessed with error and falsity. (You can't define error, Socrates observes in Plato's *Theaetetus*, without also defining knowledge; your theory of one hinges entirely on your theory of the other.) As philosophy diversified and formalized its areas of inquiry—into ethics, metaphysics, logic, and so forth—the branch concerned with the study of knowledge became known as epistemology. Epistemologists disagree among themselves about many aspects of error, but from Plato onward they have shared a rough consensus on how to define it: to be wrong is to believe something is true when it is false—or, conversely, to believe it is false when it is true. This admirably straightforward definition will be useful to us, partly because it will help us eavesdrop on philosophical conversations about error, and partly because it captures what we typically mean by wrongness in everyday life. Still, as we'll soon see, this definition is bedeviled by a problem so significant that I will choose not to rely on it.

If philosophy has traditionally sought to unify and define wrongness, a far newer field—the multidisciplinary effort known sometimes as human factors research and sometimes as decision studies—has sought to subdivide and classify it. "Decision studies" is something of a euphemism; the field focuses primarily on *bad* decisions, without which it wouldn't need to exist. Likewise, the "human factors" in question—stress, distraction, disorganization, inadequate training, lack of information, and so forth—are those that contribute to inefficiencies, hazards, and mistakes. For these reasons, the field is also (although less often) referred to as error studies, which, for clarity's sake, is the name I'll use here.

Error studies practitioners are a motley crew, ranging from psychologists and economists to engineers and business consultants, and the work they do is similarly diverse. Some seek to reduce financial losses for corporations by eliminating mistakes in manufacturing processes. Others try to improve safety procedures in situations, ranging from angioplasties to air traffic control, where human error poses a major threat to life and health. As that suggests, error studies, unlike epistemology, is an applied science.